

Name: **Retrovirus 10X Titer-Up Reagent** Cat. # P909 (1 ml); P909S (0.1 ml test sample)

Cat.# at Fisher Sci: NC1692641

Application: Increase Retrovirus titer up to **10 times** in virus packaging procedure. This product is for research use only.

Size: P909: 1 mL (for packaging 500 mL retrovirus soup); P909S: 0.1 mL

Description: This product is a novel recipe of small molecules designed for effective virus packaging.

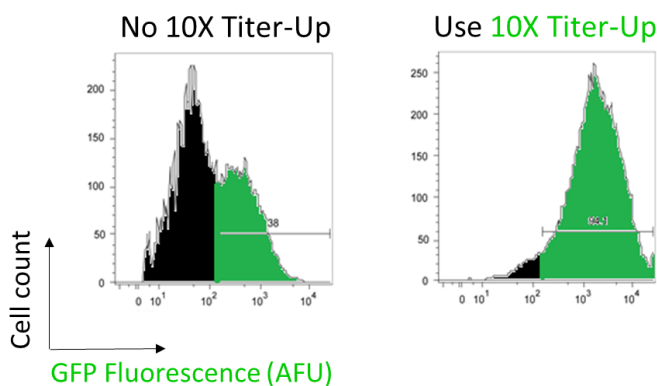
- ✓ Increase virus **titer** by **10 times**
- ✓ Increase **viral RNA** transcription
- ✓ Increase virus particle **packaging efficiency**

Ship/Store: Ship at room temperature and store at 4°C

Shelf Life: 12 months

Remark: Each lot of 10X Titer-Up reagent is **functionally tested** in virus production experiment using 293T cells.

Follow the recommended NIH BSL-2 guidelines for all materials containing Retrovirus.



Protocol (example of producing virus in 100mm petri dish)

Day 1: Plating cells

1. 24 hours before transfection, coat 100mm dishes with **6 mL 1x Gelatin** for 60 min.
2. Aspirate gelatin, and plate **~5.5 X 10⁶** fast growing 293T cells per plate, in 10 ml medium.

Note: Before plating, pipet the 293T cell suspension vigorously to achieve **single cells**.
Plate the cells in **evenly** distribution manor.

Day 2: Transfection (using 101Bio “293T Transfection Reagent”, Cat. #: P903)

1. **Change medium: 2 hours before** transfection, remove culture medium and add **8 mL fresh** complete culture medium (with 10% serum / **without antibiotics**)
2. In **tube 1** add: ~20 µg **DNA** (virus vector and packaging mix [101Bio, Cat. #: 905C])
 500 µL **DMEM** (serum-free, High Glucose)
 Pipet up and down to mix well
3. In **tube 2** Add: 45 µL **293T Transfection Reagent for Retrovirus Packaging**
 500 µL **DMEM** (serum-free, High Glucose)
 Gently pipet up and down to mix well
4. Incubate at room temperature (**20 ~ 25°C**) for 3 min.
5. Add **tube 2** into **tube 1**, pipet up and down several times. **Vortex for 10 seconds**.
6. Incubate for **15 minutes** at **room temperature**.
7. Add the incubated mixture **drop-wise** to the cells, and **gently rock / swirl** the plate.
8. Return the cells to 37°C incubator with 5% CO₂.

Day 3: Add 10X Titer-Up

Add 20 µl of 10X Titer-Up (500x) to the medium. Return the plates to the cell culture incubator.

Day 4: Collect virus

1. Collect virus supernatant twice at **48 and 72 hours** post transfection into a 50mL sterile FALCON tube. Centrifuge at **3,000rpm** for **15 minutes** at 4°C to remove cell debris. Filter the clear supernatant through **0.45 µm** syringe tip filter.
2. The filtered clear supernatant is virus soup. Use it immediately or aliquot into sterile 1.5-mL tubes and store at **-80°C**, for **up to 3 months**.

Note: No side effect 10X Titer-Up reagent on gene expression has been detected when directly transduce 293T cells. It may be various on different cell types (cell lines). A pilot test on the side effect of 10X Titer-Up is advised on sensitive cells.

3. (Optional) To concentrate virus, add 1 volume of 5X Lentivirus/Retrovirus Concentration Solution (101Bio, Cat. #: P904C, Cat.# at FisherSci.com is NC3242189) to 4 volume of the viral supernatant (volume of Lenti-Retrovirus Concentration Solution vs. volume of viral supernatant = 1:4) and mix thoroughly. Put the mixture in the 4C refrigerator overnight and spin the virus pellet down the next day. Please refer to our P904C user manual for details.

Note: No side effect 10X Titer-Up reagent on gene expression has been detected when directly transduce 293T cells. It may be various on different cell types (cell lines). A pilot test on the side effect of 10X Titer-Up is advised on sensitive cells.

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